Project No. W-____-____-

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF SAFE DRINKING WATER
TECHNICAL REVIEW FORM

PRETREATMENT
(N.J.A.C. 7:10-11.13)

_____	_____	_____
Water Purveyor	PWSID#	Municipality

Type of Process:
- ❒ Rapid mixing, Flocculation, and Sedimentation
- ❒ Solids-Contact Units

Type(s) of Treatment:
- ❒ Flocculation
- ❒ Settling
- ❒ Other:
- ❒ Softening
- ❒ Iron and Manganese Removal

	YES	NO	N/A
General			
1. Is the number of pretreatment units such that when any single unit is out of service, the remaining pretreatment unit (s) comply with the minimum required detention times and surface loading rates?	❒	❒	❒
2. For surface water treatment plants, are a minimum of two pretreatment units provided?	❒	❒	❒
3. For chemical feeds, has a Technical Review Form for Chemical Handling and Feeding been prepared?	❒	❒	❒
4. Is each pretreatment basin equipped with a drain or drains to permit dewatering?	❒	❒	❒
5. Are adequate means provided for the removal of sludge and is sludge disposed of in accordance with applicable State and Federal laws and regulations?	❒	❒	❒
6. Is adequate agitation provided to ensure rapid and uniform dispersion of each chemical throughout the water?	❒	❒	❒
Flocculation			
1. For surface water treatment plants, is flocculation provided?	❒	❒	❒
2. Is the flow through velocity no less than 0.5 feet per minutes not greater than 1.5 feet per minute with a minimum detention time for floc formation of not less than 30 minutes?	❒	❒	❒

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	YES	NO	N/A
3. Is flocculation accomplished by agitation under mixing conditions with agitators driven by variable speed drives with the peripheral speed of the paddles ranging from 0.5 to 3.0 feet per second?	❒	❒	❒
4. Are the flocculation units designed to prevent short-circuiting?	❒	❒	❒
5. Is the velocity of flocculated water through pipes or conduits to settling basins no less than 0.5 feet per second nor greater than 1.5 feet per second?	❒	❒	❒

Sedimentation

1. For surface water treatment plants, is sedimentation provided?	❒	❒	❒
2. Is the depth of the sedimentation basin at least 10 feet with ample allowance for sludge accumulation or sludge removal equipment and a depth of water flow of at least 6 feet?	❒	❒	❒
3. Are the sedimentation basins designed to prevent short-circuiting?	❒	❒	❒
4. Are submerged inlet ports located so to avoid creating a disturbance of the settled floc?	❒	❒	❒
5. Are the sedimentation basins designed so as not to exceed the maximum surface loading rate (in gallons per minute) as given below:	❒	❒	❒

	Flocculation or Iron or Manganese Removal	Lime Softening
Ground Water	0.5	1.0
Surface Water	0.375	0.75

6. For around-end baffling, are the sedimentation basins design so as not to exceed one-half the maximum surface loading rates given above?	❒	❒	❒
7. For horizontal units, is the minimum detention time at least 4 hours for surface water treatment plants and at least 2 hours for lime softening treatment plants?	❒	❒	❒
8. Are the settling basins designed so that the water velocity through the basins does not exceed 0.5 feet per second?	❒	❒	❒
9. Are the settling basins designed so that the outlet weir loading does not exceed 20 gallons per minute per foot of length of settled water?	❒	❒	❒

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Solid-Contact Units

1. Are the solid-contact units designed so as not to exceed the maximum surface loading rate (in gallons per minute) as given below: ❒ ❒ ❒

	Flocculation or Iron or Manganese Removal	Lime Softening
Ground Water	1.0	2.0
Surface Water	0.75	1.5

2. Is each solid-contact unit equipped with sample taps to facilitate collection of water samples from various locations within the unit to ensure its efficiency? ❒ ❒ ❒

3. Are the solid-contact units designed so that the outlet weir loading does not exceed 20 gallons per minute per foot of length of softened water or 10 gallons per minutes per foot of length of flocculated water? ❒ ❒ ❒

4. Is each solid-contact unit equipped for effective concentration of sludge and to facilitate sludge draw-off and disposal? ❒ ❒ ❒

5. Is sludge piping a minimum diameter of 3 inches and arranged so as to facilitate operation and cleaning? ❒ ❒ ❒

6. Are sludge valves located outside the solid-contact units? ❒ ❒ ❒

7. Are solid-contact units designed to allow for manual override of any pre-set automatic intermittent withdrawal of sludge? ❒ ❒ ❒

***Submit appropriate engineering plans, specifications, reports, etc. to substantiate your answers. ***

I hereby certify that answers provided herein are accurate and reflective of the project being considered for approval.

Signature of Engineer Date N.J.P.E. #
Professional Engineer's Embossed Seal

Type or Print Name of Engineering Firm